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1 Introduction

College students face multiple lifestyle challenges, including irregular meal timings, high stress, and disrupted sleep schedules, which can directly affect emotional well-being and academic performance. Studies suggest that diet composition—particularly the consumption of high-fat, high-sugar meals such as fast food—can influence both sleep quality and mood regulation⁽¹⁾. Young adults often gravitate toward convenience foods due to academic pressures, affordability, and easy availability, especially in urban settings⁽²⁾. Poor dietary choices have been associated with increased irritability, mood swings, and reduced cognitive efficiency⁽³⁾. Moreover, late-night consumption of calorie-dense meals may delay sleep

Correlation Between Emotional Well-being, Dietary Habits, and Sleep Consistency in College Students

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Abstract

Background: Dietary habits and meal timing are increasingly recognized as critical factors influencing emotional health and sleep quality in young adults. Aim of the study is to explore the relationship between dietary patterns, emotional well-being, and sleep consistency among college students. **Materials & Methods:** This qualitative study involved in-depth interviews with 35 college students aged 18–45 years (20 females, 15 males). Participants discussed their eating habits, stress levels, emotional responses, and sleep routines. Data were analyzed thematically to identify interconnections. **Results:** Irregular meal timing was reported by 19 participants (54.3%), with 14 (40%) consuming fast food at least twice weekly. Emotional eating during stress was common (n=15, 42.9%), often linked to irritability (n=18, 51.4%) and mood swings (n=16, 45.7%). Poor dietary patterns correlated with inconsistent sleep schedules (n=24, 68.6%) and morning fatigue. Students with regular meals and lighter evening diets (n=10, 28.6%) reported improved mood stability, reduced anxiety, and better next-day alertness. **Conclusion:** Unhealthy dietary habits, particularly late-night heavy meals, were associated with emotional instability and disrupted sleep. Promoting regular, balanced eating patterns may improve psychological well-being and sleep consistency in college populations.

Keywords: Dietary habits, Emotional well-being, Sleep consistency, College students, Meal timing, Fast food

onset, disrupt sleep architecture, and impair next-day alertness⁽⁴⁾.

The interconnectedness of diet, mood, and sleep in this age group warrants closer exploration. While previous studies have examined these factors independently, fewer have assessed their combined impact in a real-world college setting⁽⁵⁾. Understanding these correlations can aid in developing targeted interventions that promote both physical and mental health among young adults.

1.1 Review of Literature

Research shows that poor sleep hygiene among college students is often linked to late-night eating and high intake of

processed foods⁽⁶⁾. In one study, participants who consumed fast food more than three times a week reported significantly poorer sleep efficiency and higher fatigue levels⁽⁷⁾. Nutritional imbalances, such as low intake of fruits and vegetables and excessive consumption of saturated fats, have been linked to reduced serotonin production and mood dysregulation⁽⁸⁾.

A study on emotional well-being in young adults found that diets high in refined carbohydrates were associated with higher stress reactivity and lower emotional resilience⁽⁹⁾. Similarly, regular consumption of sugary beverages and fried snacks has been associated with depressive symptoms and lower overall life satisfaction⁽¹⁰⁾. Sleep inconsistency—characterized by variable bedtimes and wake-up times—has also been found to impair memory consolidation, increase anxiety, and exacerbate mood fluctuations⁽¹¹⁾.

Dietary improvement interventions have shown promising outcomes, with students who adopted balanced evening meals reporting better sleep onset and fewer emotional disturbances⁽¹²⁾. These findings highlight the potential benefits of integrating nutrition awareness into college health programs.

2 Methodology

2.1 Study Design

This study employed a qualitative, cross-sectional design using in-depth, semi-structured interviews to explore the interrelationship between dietary habits, emotional well-being, and sleep consistency among college students.

2.2 Participants

A total of 35 college students aged 18–45 years were recruited through purposive sampling from both urban and semi-urban institutions. The sample included a mix of undergraduate, postgraduate, and working students enrolled in part-time courses. Participants represented diverse academic streams, including arts, science, commerce, engineering, and health sciences.

2.3 Data Collection Tool

A semi-structured interview guide was developed, covering four key domains:

- 1. Dietary habits** – frequency, type, and timing of meals (including late-night eating).
- 2. Emotional well-being** – mood patterns, stress management, and coping mechanisms.
- 3. Sleep patterns** – regularity, duration, and quality of sleep.

4. Perceived interconnections

between diet, mood, and sleep.

The guide was validated by two subject experts in public health and psychology to ensure content relevance and clarity.

2.4 Data Collection Procedure

Interviews were conducted face-to-face or via secure online platforms, depending on participant availability. Each session lasted approximately 30–45 minutes and was audio-recorded with consent. Interviews were conducted in English, Hindi, or Marathi, based on participant preference, and later transcribed verbatim.

2.5 Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee (Approval No: xxx). Participation was voluntary, and written informed consent was secured from all participants. Confidentiality and anonymity were maintained by assigning unique identification codes to each transcript.

2.6 Data Analysis

Thematic analysis was employed following Braun and Clarke's six-phase approach. Transcripts were read multiple times for familiarization, followed by open coding to identify patterns. Codes were grouped into themes reflecting relationships between diet, emotional well-being, and sleep consistency. Two researchers independently coded the transcripts, and discrepancies were resolved through discussion to ensure reliability.

3 Results

3.1 Participant Characteristics

The study included 35 participants aged 18–45 years, with 20 females (57.1%) and 15 males (42.9%). Most were undergraduates (n=21, 60%), followed by postgraduates (n=9, 25.7%) and part-time working students (n=5, 14.3%).

Table 1: Participant Demographics and Dietary Patterns

Variable	Category	n	%
Gender	Female	20	57.1
	Male	15	42.9
Age Group	18–25 years	22	62.9
	26–35 years	9	25.7
	36–45 years	4	11.4
Meal Timing Regularity	Regular meals	16	45.7
	Irregular meals	19	54.3
Fast Food Frequency	≥2 times/week	14	40.0
	<2 times/week	21	60.0

3.2 Dietary Habits and Meal Timing

A majority of students (n=19, 54.3%) reported irregular meal patterns, often skipping breakfast or having late dinners after 9:00 PM. Fast food consumption at least twice a week was reported by 14 participants (40%), with 6 (17.1%) consuming it four or more times weekly. Students with balanced home-cooked meals (n=13, 37.1%) reported fewer digestive issues and better energy levels.

3.3 Emotional Well-being

High stress levels related to academic workload were reported by 22 participants (62.9%). Of these, 15 (42.9%) admitted to emotional eating—mainly high-calorie snacks—during stressful periods. Feelings of irritability (n=18, 51.4%), mood swings (n=16, 45.7%), and anxiety (n=12, 34.3%) were commonly linked to irregular eating schedules and poor food quality.

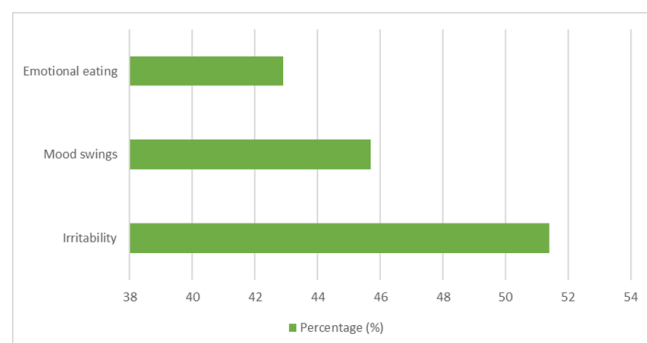


Fig. 1: Emotional Symptoms Linked to Unhealthy Diet

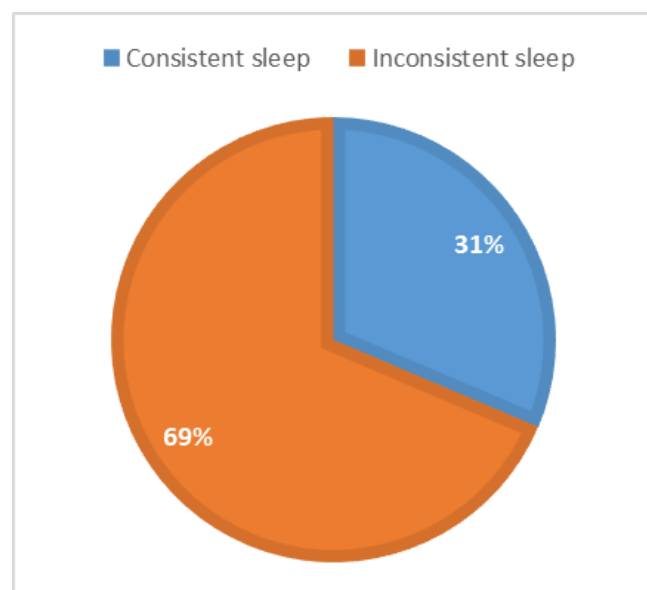


Fig. 2: Correlation Between Dietary Habits and Sleep Consistency

3.4 Sleep Consistency and Quality

Regular sleep schedules (bedtime before 11 PM, 7–8 hours sleep) were reported by only 11 participants (31.4%), while 24 (68.6%) experienced inconsistent sleep patterns. Late-night eating was identified by 14 students (40%) as a major cause of delayed sleep onset. Participants with consistent meal times and lighter evening meals (n=10, 28.6%) reported waking up more refreshed and focused (see (Table. 1) and (Fig. 2)).

3.5 Interrelationship Between Diet, Emotions, and Sleep

Thematic analysis revealed that unhealthy dietary habits, especially late-night heavy meals were associated with emotional dysregulation and poor sleep quality. Participants with irregular diets were twice as likely to report irritability and fatigue the next day. Conversely, those who adopted healthier eating patterns (n=12, 34.3%) reported improved mood stability, reduced anxiety, and better concentration.

4 Discussion

The present findings reinforce prior evidence that poor dietary habits, particularly frequent fast-food consumption and irregular meal timing, are associated with disrupted sleep and reduced emotional stability⁽¹⁷⁻²⁰⁾. Students reporting high processed food intake experienced more irritability, mood swings, and daytime fatigue, while those adopting balanced diets reported steadier moods, improved focus, and consistent sleep. These results support earlier studies linking nutrient-dense diets to optimal neurotransmitter function and circadian regulation⁽²¹⁻²³⁾. The observed cycle—stress-driven eating leading to poor sleep, which in turn exacerbates emotional dysregulation—highlights the need for integrated campus-based interventions combining nutrition education, stress management, and sleep hygiene promotion.

5 Conclusion

This study demonstrates a clear correlation between dietary habits, emotional well-being, and sleep consistency among college students. Frequent consumption of processed or fast foods was linked to poorer sleep quality, reduced next-day alertness, and greater emotional instability, whereas balanced eating patterns supported better mood regulation and stable sleep. These findings emphasize the importance of integrating nutritional guidance into student wellness programs as a preventive strategy for improving mental health and academic performance.

5.1 Limitations

This study's findings are limited by its small sample size and reliance on self-reported data, which may be affected by recall and social desirability bias. The cross-sectional design prevents establishing causal relationships. Sleep quality and emotional well-being were not assessed using objective measures, and other confounding factors such as physical

activity, academic stress, and screen time were not fully controlled.

5.2 Future Implications

Future research should employ larger, more diverse samples and longitudinal designs to better establish causal links between dietary habits, emotional well-being, and sleep consistency. Incorporating objective assessments, such as actigraphy for sleep and validated dietary recall tools, could strengthen findings. Interventions promoting balanced diets and sleep hygiene in college settings may help improve both mental and physical health outcomes.

6 Disclosure

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Ethical Approval: Ethical approval was obtained from the Institutional Ethics Committee (Approval No: xxx) and involved human participants.

Consent for Publication: Not applicable. The study does not include any individual person's data in any form (including images, videos, or case reports).

Availability of Data and Materials: The datasets generated during the current study are available from the corresponding author on reasonable request.